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DOES INCOME INFLUENCE RATIONAL DECISIONS?

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This study explores the impact of income on customer loyalty so as to verify whether consumer decision-making is bounded by rationality or not. The empirical findings show that income positively affects customer loyalty in choosing leisure parks. Specifically, high-income customers prefer to reduce the time cost of information collection. Therefore, they are more inclined to choose a specific resort or a leisure activity park of a particular brand rather than spend their time searching and planning for the most appropriate location of a leisure activity park. This result supports the notion that customers' consumption decisions are bounded by rationality, not for the purpose of making the optimal decision, but in order to pursue satisfying their own needs instead.

Keywords: income, rational decision, loyalty, bounded rationality, decision choices

JEL Classification: A10, D01, D12, D52

INTRODUCTION

This study explores whether income influences consumer rational behavior decisions in choosing a leisure activity location. According to the rational economic man hypothesis (Uzonwanne, 2016), consumers will make decisions to maximize their own utility under resource constraints. Because of incomplete pieces of information available to customers, however, they are easily affected by a past knowledge or past experiences in making their consumption decisions, as a consequence of which they are inclined to make decisions based on loyalty to or the convenience of choosing a specific brand rather than on the selection of a product offering the greatest utility, which all results in irrational decision-making (Pekovic & Rolland, 2020; Huang & Sudhir, 2021; Khan, Salamzadeh, Iqbal & Yang, 2022).

The traditional economy uses mathematical deduction as the method and takes complete rationality and self-interest as the basic assumptions (Gigerenzer, 2020; Giarlotta, Petralia & Watson, 2022). The so-called 'economic man' means that a human being's economic behavior will take the pursuit of the maximum profit or maximum satisfaction as the main decision-making

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goal (Uzonwanne, 2016). Another strand of literature related to behavioral economics documents that, in reality, a human being's economic behavior often systematically violates predictions made by these theories. Faced with this kind of problem, economists used to call it 'irrationality' or a 'puzzle' with theory (Güth, 2021; Hsee, Zeng, Li & Imas, 2021).

The prior literature has not reached a consensus on consumer behavior when making a decision on a leisure activity, which is the motivation for the current study to investigate whether a choice of a leisure park is more aligned with the phenomenon of the economic manor is more inclined towards behavior theory. This study takes Taiwan's leisure industry as an experiment, because the government's implementation of the five-workday week in Taiwan makes people have more leisure time and be more willing to participate in outdoor leisure activities in order to relieve the long-standing stress at work. A study by H. J. Chen, Y. S. Ting, Y. L. Hsu and C. C. Lu (2017) indicates that participation in leisure activities in Taiwan may help people release their emotions and restore their spirit, make them healthy and energetic, improve the quality of their lives, stimulate their intelligence, improve their efficiency and enjoy a happy life.

In Taiwan, there are many options for leisure activity parks, which often takes people a lot of time to collect information on and to plan for tourism and leisure activities. Consumers may not choose leisure activity parks based on the rational decision of the maximum utility. Therefore, this paper takes leisure activity parks as the research subject matter in order to explore whether income affects customer loyalty or not. In particular, this paper postulates that higher-income customers are more likely to be limited by the time cost of information collection and are more inclined to choose a specific location or brand of leisure activity parks rather than select a leisure activity park with the highest utility.

A positive correlation between income and customer loyalty is expected to be found in this paper, especially so among the high-income consumers who would demonstrate greater customer loyalty. In other words, under the cost of information search, high-income customers do not necessarily make decisions based on rationality but have higher customer loyalty to certain leisure park brands instead. In brief, the contribution made by this study reflects in its filling the gap of the research in the field of customer's consumption decisions and their economic rationality, especially since the existing papers have rarely explored the influence of income on rational decision-making because it is usually difficult to obtain data on residential income.

The remainder of the paper is structured as follows: Section 2 presents a literature review and the hypothesis development; Section 3 describes the research design; Section 4 displays the empirical outcomes and Section 5 provides the conclusions of the study.

LITERATURE REVIEW AND THE HYPOTHESIS DEVELOPMENT

Traditional economic theory emphasizes the fact that people are rational and that their decisions are based on how they will maximize their economic benefits after searching for perfect information necessary for them to make their decisions, namely the most appropriate decisions (Uzonwanne, 2016). In reality, however, C. K. Hsee *et al* (2021) and W. Güth (2021) indicate that there are in fact more phenomena showing that the conditions of the economic man may not be in proper agreement with facts since a human being's economic behavior is not only affected by environmental 'economic factors', but it is also influenced by a human being's 'emotional factors'.

Scholars first studied the bounded rationality of behavioral decision-making. The bounded rationality concept mainly originated from the rationality of the economic man, which was put forward by H. A. Simon, the Nobel Prize winner in economics in 1978, whose concept suggests that bounded rationality means that people make decisions based on limited information. Therefore, when a person makes a decision, it is not the best result they are pursuing, but the satisficing conclusion instead.

H. A. Simon (2000) proposed bounded rationality and customer satisfaction theory, arguing that the majority of people on the market could not make the most appropriate decision. Instead, they make decisions based on limited information. G. Gigerenzer (2020) also mentioned that, according to economists, the so-called pure rational decision-making method pursuing the maximum utility may not exist. Consequently, people do not often make a utility maximizing decision, but a 'satisficing' decision instead. Moreover, A. Giarlotta, A. Petralia and S. Watson (2022) suggest that a rational decision is rare and emphasize the fact that the environment in which a decision-maker is located has a big (but predictable) influence on the decision-maker's behavior. This study of ours attempts to examine whether Taiwanese consumers demonstrate a rational behavior or a more emotional behavior in selecting a leisure park (resort) when searching for their holiday location.

What would be the reason lying behind the emotional purchasing behavior of the consumer? This study proposes customer loyalty as the key factor in the leisure industry. Another strand of literature related to this study refers to customer loyalty. Customer loyalty implies that consumers adhere to their choice due to the conversion of commercial marketing methods (Gremler, Van Vaerenbergh, Brüggen & Gwinner, 2020; Rita and Okorie, 2022). O. Iglesias, S. Markovic, M. Bagherzadeh and J. J. Singh (2020) point out the fact that consumer loyalty is achieved in a repeated purchase behavior. S. Pekovic and S. Rolland (2020) suggest that customer loyalty is significantly affected by one's past consumption experience. M. Kocic and K. Radakovic (2019) document that a firm should enhance its customer relationship management, whereas G. Huang and K. Sudhir (2021) and R. U. Khan *et al* (2022) suggest that customer satisfaction forms customer loyalty, hence leading to a better reputation of the firm.

The income factor is one of the key factors that determine a decision made by a consumer (Vilkaite-Vaitone & Skackauskiene, 2020). The income effect implies that, when real income increases, the real purchasing power for a commodity also increases, resulting in the growth of demand for the commodity (Nanda & Banerjee, 2021). K. W. Clements and J. Si (2018) point out the fact that increasing income leads to consumers seeking for a high-quality consumption and fewer budgetary constraints allow more substitutes-in-consumption (Nguyen, Tran & Tran, 2020), which may lead to change in consumption preferences. Therefore, it is difficult for the rational decision-making model to exist in reality in human society. Instead, decision-making is also driven by an emotional factor, such as customer loyalty. Scholars such as H. A. Simon, V. Smith, and K. Kahneman, replace complete rationality with bounded rationality, and advocate replacing the optimal with satisfactory (Gigerenzer, 2020). H. Ren and T. Huang (2018) and Y. Song, X. Zhao, W. Zhu and Y. Chen (2019) also suggest that bonded rationality is common, the basic point or the important concept of this theoretical decision-making model lying in the factors affecting the decision-maker's misbehavior, including the decision-maker's limited ability, incomplete information, a tendency to simplify problems and situations, susceptibility to past knowledge or past experiences, subjection to the influence of the order of the information obtained, often replacing a correct piece of information with approximate information, usually making intuition-based decisions.

Therefore, our study postulates that higher-income customers are more likely to be limited by the time cost of information collection (bounded rationality) and that they are more inclined to choose a specific location or a specific brand of leisure activity parks (the tendency to simplify problems and situations, susceptibility to past knowledge or past experiences), rather than select a leisure activity park with the optimal utility. In other words, under the cost of information search, high-income customers will choose accepted leisure parks according to their past knowledge or experience, which results in greater customer loyalty. Thus, the following is hypothesized:

H: Income is positively correlated with customer loyalty according to bounded rationality theory, people do not often make a utility maximizing decision and they will make a limited-information-based 'satisficing decision'.

RESEARCH DESIGN

Data source - the questionnaire design

The pre-test questionnaire designed in this study is divided into the four parts: Part 1 is dedicated with the learning incentive and the leisure incentive; Part 2 is about travel satisfaction; Part 3 deals with customer loyalty, and Part 4 is the basic personal information. The items of each dimension in the questionnaire were designed according to the research study by C. R. Liu, T. C. Wu, P. H. Yeh and S. P. Chen (2015), and H. Jiang and Y. Zhang (2016). The detailed questionnaire items of Part 1, Part 2, and Part 3 can be found in the Appendix, whereas the Part 4 items related to the personal information are of a confidential nature. There are 30 items in total in the questionnaire. The people who participate in leisure activities and who look for a specific resort or leisure park location are included as respondents in the survey. The Summated Rating Scale method refers to the five-point Likert scale, and the respondents selected among 'strongly agree', 'agree', 'neutral', 'disagree', and 'strongly disagree' with the questionnaire items according to the preference degree with 5 points, 4 points, 3 points, 2 points, and 1 point assigned to each of the above options, respectively.

Customer loyalty refers to repeated consumption and making a recommendation for a particular leisure park to others according to a past purchasing experience. Furthermore, the customer will have a long-lasting degree of preference for this particular leisure experience, and they are even not attracted by the competitor's marketing activities. A. Rasool, F. A. Shah and N. Tanveer (2021) also show that customer loyalty is related to a past purchase experience. Consumer loyalty is classified into two parts in this study: the one is 'repeated consumption intention', which refers to the consumer's repeated purchasing behavior meaning their revisiting a leisure spot, and the other is the 'past-purchase intention', which refers to the consumer's intention to recommend the leisure park they have already visited.

The main subjects of this study are the urban residents of the Taoyuan County in Taiwan. The questionnaire survey method used implies the distribution of the questionnaire to the people who have an experience of visiting a leisure park. The implementation period was from January 5 to February 4, 2022. As many as 350 copies of the questionnaire were distributed and 341 copies were recovered, with a questionnaire recovery rate of 97.42%. Those questionnaires with incomplete answers, omissions or repeatedly selected answers, or randomly answered questions were classified as invalid questionnaires. After 15 invalid questionnaires had been deducted, 326 valid questionnaires remained, with the recovery rate of the valid questionnaires 93.14%.

Factor analysis

After the results of each question of the questionnaire had been collected, factor analysis was carried out to extract the main factors. Then, the orthogonal rotation axis was carried out with the maximum variance rotation (Varimax) so as to extract the important factors. The arguments made by J. F. Hair, R. E. Anderson, R. L. Tatham and W. C. Black (1994) were the basis of the extraction criteria of various dimensions, with the eigenvalue greater than 1 as the criterion for the selection of a number of factors. The maximum variance axis rotation method was adopted then. The absolute value of the factor loading after the rotation must be greater than 0.5, the difference between the value of this factor loading and the values of the other factor loadings must be greater than 0.3, and the above-mentioned criteria must be met so as to combine the variables of this factor. Finally, the variables were named according to the components of each factor.

This study used content validity and construct validity to test the validity of each scale. Factor analysis is carried out so as to simplify the factor structure and maximize the explanation of the total variation with the least common factors. The greater the value of the factor loading, the greater the importance of the item in the common factor, and the greater the construct validity. 'Principal component analysis' is used in the study in order to extract the common factor with the

eigenvalue greater than 1 and the greatest eigenvalue of the dimension factor as the representative of the dimension, and the axis is rotated with the maximum variance of the orthogonal axis.

H. F. Kaiser (1970) pointed out the fact that the KMO (Kaiser-Meyer-Olkin) coefficient was used to test the suitability of sampling and the judgment criterion of factor analysis implied that the value above 0.9 was excellent and above 0.6 was normal. The greater the value of the KMO index coefficient, the better the suitability of the factor analysis. In this study, the KMO coefficients of all the items in each one of the four dimensions are above 0.6, thus indicating the fact that the suitability of the factor analysis made in this study is above the level.

The reliability and validity concepts cannot be separated from the measurement as they are the sources of the measurement error. Reliability refers to the characteristics of the test scores, or the consistency or stability of the measurement results. This study used Cronbach's α coefficient to test for internal consistency. The greater the value of the α coefficient, the better internal consistency. The α (Alpha) coefficient was developed by L. J. Cronbach (1951) in order to perform reliability analysis on questionnaire data so as to check the structure and stability of the questionnaire itself. The acceptable Cronbach α value range exceeds 0.5.

Research model

In order to explore the influence income exerts on customer loyalty, a regression model was established as follows:

$$Loyalty_i = \beta_0 + \beta_1 Income_i + \beta_2 Learning_i + \beta_3 Leisure_i + \beta_4 Satisfication_i + \varepsilon_i$$

where *income* was measured by *personal income* and *household income*. *Personal income* is divided into six grades, including less than NT$ 300,000, 300,000-600,000, 610,000-1 million, 1.01 million-1.5 million, 1.51 million-2 million, and 2.01 million or more, assigned 1-6 points, respectively; *household income* is divided into less than NT$ 500,000, 500,000-1 million, 1.01 million-1.5 million, 1.51 million-2 million, 2.01 million-3 million, and 3.01 million and above that amount, assigned 1-6 points, respectively. In addition, *loyalty* means customer loyalty, *learning* refers to the learning incentive, *leisure* implies the leisure incentive, and *satisfaction* pertains to customer satisfaction.

All the variables, except for the income variable, are the values after the rotation axis of the principal component method of the factor analysis on the data collected from the questionnaire. If β_1 is a positive value, it means that income will positively affect customer loyalty - i.e. the higher the income, the greater customer loyalty, which is supportive of the fact that consumers are characterized by bounded rationality.

Previous studies show that a gender plays an important role in personal income (Roszkowski & Grable, 2010) and consumer behavior (Dang & Nguyen, 2021). N. I. M. Najib and N. Majid (2021) and J. Q. Cheong, S. Narayanan and J. L. Fernandez (2022) show that the income earned by male practitioners is on average higher than that earned by female practitioners.

P. K. Korgaonkar, D. Lund and B. Price (1985) indicate that female consumers demonstrate stronger repatronage behavior than male consumers. J. W. Gentry, M. Doering and T. V. O'Brien (1978) suggest that both male and female customers are different in their respective perceptions and their respective preference of goods and leisure activities. H. A. H. Dang and C. V. Nguyen (2021) examine the COVID-19 effect on customer behavior and show that women have a tendency to decrease their current consumption and increase savings after COVID-19. Moreover, S. Fournier (1998) concluded that interpersonal and brand relationships were stronger for women than for men.

The aforementioned studies imply that the effect of income on customer loyalty may be different between men and women. Therefore, another test was conducted in this study in order to ensure the robustness of the results. That is, this study further examines whether a gender would influence the relationship between income and customer loyalty in the 4.5 Robustness test.

EMPIRICAL RESULTS

Descriptive statistics

As many as 326 valid questionnaires collected during the conducting of this study were analyzed using descriptive statistical methods for the composition of the sample data so as to better understand the data characteristics. The respondents' basic data included eight questions of the gender, age, title, marital status, educational level, personal annual income, total annual family income, and place of residence in order to fully understand their distribution. The sample structure and the characteristics of the personnel sample were analyzed according to the distribution, as is shown in Table 1. The unemployed are classified into the 'housekeeper'.

The preliminary analysis of income and customer loyalty

If the customer options of 4 points and 5 points are set as 'agree', then the agreement ratio of each age group to each customer loyalty question is shown in Table 2 and Table 3. In terms of personal annual income, among the 12 respondents with personal annual income exceeding 2.01 million, nearly 89% of them agreed with customer loyalty, whereas only 82% of those with annual income below 300,000 agreed with customer loyalty. For those with the annual income of 610,000 to 2 million, more than 90% agreed with customer loyalty. The household income results of Table 3 are also similar. Among the group with the annual income of 1.51 million to 3 million, over 90% agreed with customer loyalty. This preliminary result shows that the groups with upper-to-middle annual income demonstrate greater customer loyalty.

Factor analysis and the scale reliability analysis

After the reliability analysis of the questionnaire and the question items with bad values had been removed, the questionnaire was divided into the four major dimensions. The first, i.e. the learning incentive, implies visiting a leisure park for the purpose of learning. The second, i.e. the leisure incentive, implies visiting a leisure spot for the purpose of relaxing and releasing the pressure. The third, i.e. customer satisfaction, means visiting a leisure park for the satisfaction of the environment, the service and the facility. The last fourth, i.e. travel loyalty, means the intention to re-visit a leisure park or recommend a leisure park to other friends.

Overall, after the reliability analysis of the scale had been carried out, the Cronbach α values of each dimension in the study were all above 0.7. Moreover, the KMO coefficients of all the items were greater than 0.6, indicating that the questionnaire had good internal consistency, as is shown in Table 4.

Regression empirical results

In order to verify whether income affects customer loyalty when choosing leisure parks or not, the regression results are accounted for in Table 5. The table shows that the regression coefficient of the income is positive and has reached a significant level of 1% either in *personal income* or in *household income*. That is, when the learning incentive, the leisure incentive, and satisfaction are controlled, the higher the income of the customer, the greater customer loyalty (*loyalty*).

The regression results shown in Table 5 imply that the customers earning higher income are more likely to be limited by the time cost of information collection and more inclined to choose a leisure activity park of a specific location or a specific brand, rather than the leisure activity park with the greatest utility. The results thus support the fact that customers are bounded-rational rather than absolutely rational, which is consistent with the hypothesis of the study.

When the control variables are concerned, the leisure incentive (*leisure*) is positively correlated with customer loyalty (*loyalty*), which implies that relaxing the customer's mind and body plays an important role in determining their loyalty. In addition, customer satisfaction (*satisfaction*) had a positive impact on customer loyalty (*loyalty*), which means that, if a

Table 1 The respondent basic data

Basic data	Item	No. of the respondents	Percentage
Gender	Male	146	44.80%
	Female	180	55.20%
Age	Younger than 20 years of age	8	2.40%
	20-30 years old	56	17.20%
	31-40 years old	61	18.70%
	41-50 years old	106	32.50%
	51-60 years old	82	25.20%
	61 years old or older	13	4.00%
Job type	Housekeeper	82	25.10%
	Entry-level employee	45	13.80%
	Grassroots supervisor	68	20.90%
	Mid-level executive	86	26.40%
	Senior executive	25	7.70%
	General manager (deputy)	20	6.10%
Personal annual income	Less than 300,000	12	3.70%
	300,000-600,000	49	15.00%
	600,000-1000,000	158	48.50%
	1,000,000-1,500,000	77	23.60%
	1,510,000-2,000,000	18	5.50%
	Above 2,010,000	12	3.70%
Annual household income	Less than 500,000	0	0.00%
	500,000-1000,000	25	7.70%
	1,010,000-1,500,000	87	26.70%
	1,510,000-1,200,000	136	41.70%
	2,010,000-3000,000	63	19.30%
	Above 3,010,000	15	4.60%
Marital status	Married	206	63.20%
	Single	120	36.80%
Place of residence	The Taipei-Keelung metropolitan area	108	33.10%
	The Taoyuan-Hsinchu-Miaoli area	156	47.90%
	The Taichung-Changhua-Nantou area	17	5.20%
	The Yunlin-Chiayi-Tainan area	18	5.50%
	The Yilan-Hualien-Taitung area	25	7.70%
	Offshore island	2	0.60%
Educational level	Junior high school	6	1.80%
	Senior high/vocational school	93	28.50%
	Junior college	52	16.00%
	College	143	43.90%
	Graduate school or above	32	9.80%

Source: Authors

Table 2 The percentage of approval regarding customer loyalty by annual personal income

Personal Income	I will promote the advantages of leisure activity parks.	Customer loyalty in the leisure activity park focuses on the consumption quality.	After my experience, I think that leisure activity parks are worth being recommended to others.	I will take the initiative to recommend leisure activity parks to my relatives and friends.	I will take the initiative to recommend leisure activity parks to my colleagues.	When choosing a leisure activity park, I will give priority to this place.	Mean
<300,000	100.00%	75.00%	83.33%	66.66%	75.00%	91.66%	81.94%
300,000-600,000	87.75%	91.83%	85.71%	87.75%	91.83%	83.67%	88.09%
600,001-1,000,000	96.83%	100.00%	94.93%	93.67%	91.77%	94.93%	95.36%
1,000,001-1,500,000	94.80%	97.40%	96.10%	96.10%	92.20%	90.90%	94.58%
1,500,001-2,000,000	88.88%	100.00%	100.00%	94.44%	94.44%	88.88%	94.44%
>2,000,000	83.33%	100.00%	91.66%	91.66%	83.33%	83.33%	88.89%
Total	94.17%	97.23%	93.55%	92.33%	91.10%	91.41%	93.30%

Source: Authors

Table 3 The percentage of approval regarding customer loyalty by annual household income

Household Income	I will promote the advantages of leisure activity parks.	Customer loyalty in the leisure activity park focuses on the consumption quality.	After my experience, I think that leisure activity parks are worth being recommended to others.	I will take the initiative to recommend leisure activity parks to my relatives and friends.	I will take the initiative to recommend leisure activity parks to my colleagues.	When choosing a leisure activity park, I will give priority to this place.	Mean
500,001-1,000,000	96.00%	92.00%	88.00%	84.00%	80.00%	84.00%	87.33%
1,000,001-1,500,000	91.95%	95.40%	87.35%	89.65%	87.35%	91.95%	90.61%
1,500,001-2,000,000	97.79%	99.26%	94.11%	93.38%	92.64%	94.85%	95.34%
2,000,001-3,000,000	95.23%	96.82%	95.23%	92.06%	87.30%	93.65%	93.38%
>3,000,000	73.33%	100.00%	86.66%	80.00%	73.33%	93.33%	84.44%
Total	94.47%	97.23%	91.71%	90.79%	88.34%	92.94%	92.58%

Source: Authors

Table 4 The factor loadings and reliability

Item	Factor Loadings	Cronbach's α
Learning Incentive		
1.2	0.762	0.912
1.4	0.755	
1.5	0.743	
1.3	0.721	
1.6	0.712	
Leisure Incentive		
2.1	0.766	0.825
2.3	0.763	
2.4	0.748	
2.2	0.662	
Travel Satisfaction		
3.1	0.769	0.832
3.3	0.744	
3.2	0.735	
3.4	0.729	
Customer Loyalty		
4.4	0.823	0.882
4.5	0.808	
4.6	0.754	
4.1	0.739	
4.2	0.732	

Source: Authors

Table 5 The correlation between income and customer loyalty

Variable	Estimate	t	Estimate	t
Constant	0.768***	2.97	0.841***	2.76
Personal Income	0.293***	5.99		
Household Income			0.274 ***	4.45
Learning	0.066	1.33	0.042	0.78
Leisure	0.394*	1.79	0.315**	2.01
Satisfaction	0.203***	3.24	0.242***	2.95
Adj R^2	0.248		0.267	
N	326		326	

Note: All the variables, except for the 'income' variable, are the values after the rotation axis of the principal component method of the factor analysis on the data collected from the questionnaire. *, ** and *** denote the statistical significance at the levels of 10%, 5%, and 1%, respectively.

Source: Authors

leisure park can improve customer satisfaction, then it can further improve customer loyalty as well. The results are consistent with those of C. H. Wu and Y. F. Pao (2016) and G. Huang and K. Sudhir (2021).

Robustness test - the gender effect

The observations are further divided into the two groups based on their gender, and the regression of Equation is rerun. The results are reported in panels A and B of Table 6. Panel A shows the regression results for the men, while Panel B shows the regression results for the women. The table shows that the coefficient of *personal income* and *household income* is positively related to customer loyalty and has reached a significant level of 1%. The results presented in Table 6 are quantitatively consistent with those of Table 5, and again support our argument. Therefore, regardless of the male-female correlation, there is positive correlation between customer loyalty and the income level.

CONCLUSION

In modern society, the leisure activity is becoming one of the crucial parts of one's life after work. People also pay more attention to the quality and level of the satisfaction of the choice of a leisure spot. This study explores the influence of income on customer loyalty in order to verify whether consumers have bounded rationality or not. The study further investigates the customer's learning incentive and leisure incentive, travel satisfaction, customer loyalty, and their income range through a questionnaire survey, extracts the factors of each dimension through factor analysis, and ultimately tests the relationship between customer loyalty and the income level through regression analysis.

The findings of the empirical results of the research study show that, even after the learning incentive, the leisure incentive, and tourism satisfaction have been controlled, income still significantly and positively affects customer loyalty in choosing leisure parks. This result supports the hypothesis of the research

Table 6 The robustness test: The correlation between income and customer loyalty by different genders

Panel A Male				
Variable	Estimate	t	Estimate	t
Constant	0.513**	2.21	0.492**	2.08
Personal Income	0.421***	3.45		
Household Income			0.315**	2.26
Learning	0.132	0.78	0.025	0.63
Leisure	0.215*	1.81	0.361*	1.76
Satisfaction	0.164**	2.45	0.271***	3.02
Adj^2	0.224		0.263	
N	146		146	
Panel B Female				
Variable	Estimate	t	Estimate	t
Constant	0.615***	3.04	0.624***	2.89
Personal Income	0.315***	3.31		
Household Income			0.283***	3.65
Learning	0.046	1.26	0.036	0.96
Leisure	0.251**	2.03	0.395**	2.26
Satisfaction	0.316***	2.82	0.361***	3.26
Adj R^2	0.361		0.328	
N	180		180	

Note: All the variables, except for the 'income' variable, are the values after the rotation axis of the principal component method of the factor analysis on the data collected from the questionnaire. *, ** and *** denote the statistical significance at the levels of 10%, 5%, and 1%, respectively.

Source: Authors

study reading that the customer's consumption decisions are bounded by rationality, i.e. higher-income customers are more likely to be limited by the time cost of information collection and are more inclined to choose a specific location or a specific brand of leisure activity parks, rather than spend a lot of time searching and planning for the most appropriate leisure activity parks.

This empirical result is supportive of the bounded rationality concept highlighted in the previous literature by H. Ren and T. Huang (2018) and Y. Song *et al* (2019), G. Gigerenzer (2020). In addition, this research study also has management implications in that leisure activity parks should be paying more attention to the high-income customer's needs in order to improve the satisfaction of such customers, which generates more revenue in return.

Therefore, it is our suggestion that leisure park operators should focus on developing their business strategies related to consumer loyalty and bounded rationality decision-making from the perspective of personal income and travel satisfaction so as to reduce unnecessary waste and to better enhance consumer loyalty. This is expected to be potentially useful in managing leisure park business.

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APPENDIX

Table A1 The questionnaire items

The learning incentive
1.1 Leisure activities expose me to different types of people.
1.2 Leisure activities allow me to learn how to get along with others.
1.3 Leisure activities allow me to expand myself in different areas.
1.4 Leisure activities can increase my knowledge.
1.5 Sharing leisure activities experience with others can increase my knowledge.
1.6 Leisure activities can increase my thinking ability.
The leisure incentive
2.1 Leisure activities can make me feel happy.
2.2 The ample space for leisure activities allows me to relax.
2.3 Leisure activities give me a mental break.
2.4 Leisure activities relax my mind and body.
2.5 Leisure activities bring peace to my mind.
Travel satisfaction
3.1 I am satisfied that the environment in the leisure activity park is clean and tidy.
3.2 I am satisfied with the convenience of transportation for me to do leisure activities.
3.3 I am satisfied with the attitude of the service staff toward leisure activities.
3.4 I am satisfied with the facilities where I conduct leisure activities.
3.5 Leisure activities with unique views make me satisfied.
Customer loyalty
4.1 I will promote the advantages of leisure activity parks.
4.2 Customer loyalty in the leisure activity park focuses on the consumption quality.
4.3 After the experience, I think that leisure activity parks are worth being recommended to others.
4.4 I will take the initiative to recommend leisure activity parks to my relatives and friends.
4.5 I will take the initiative to recommend leisure activity parks to my colleagues.
4.6 When choosing a leisure activity park, I will give priority to this place.

Source: Authors